

## **ABSTRACT OF THE DISCLOSURE**

An embodiment of the invention incorporates, or encapsulates, authentication mechanisms into an initiation phase of a transmission protocol session. In a preferred embodiment, EAP authentication steps are included in the three-way handshake of a request to establish a TCP/IP session. An EAP authentication session request can be designated within the standard TCP segment by using unused flags in the segment header. Another way to designate the request is to include a predefined option value in the header.